ADVERSE EVENTS OF ANTI-CHOLINERGIC DRUGS FOR TREATING OVERACTIVE BLADDER SYMPTOMS IN ADULTS
A SYSTEMATIC REVIEW AND META-ANALYSIS OF RANDOMISED TRIALS

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Background

• Anti-cholinergic medications have been shown to be effective in the management of overactive bladder symptoms (OAB). However, concerns have been raised regarding adverse events, especially when being administered to elderly or co-morbid patients.
• Adverse events associated with anti-cholinergic drugs are variable depending on the drug’s specific selectivity for the M3 receptors and metabolism.

The aim of this study was to compare adverse events reported for different anti-cholinergic drugs when used for treatment of overactive bladder (OAB) symptoms in adults.

Methods

• Literature search of MEDLINE, EMBASE, Cochrane specialised trials register, clinicaltrials.gov and IUGA/ICS databases was conducted in March 2011.
  Inclusions: Randomised controlled trials (RCTs) comparing two anti-cholinergic drugs in adults with OAB or detrusor over-activity were included.
  Exclusions: Trials comparing one anti-cholinergic with placebo
  • Adverse event data was extracted independently by two authors
  • Data was analysed using Rev-Man 5

Results

Dry Mouth
The dry mouth rates were statistically significantly lower with Tolerodine, trospium, propiverine and solifenacin when compared to oxybutynin. Those taking fesoterodine reported higher rates of dry mouth compared to tolerodine.

Constipation
The constipation rate was significantly lower with Oxybutynin compared to trospium. Those taking tolerodine reported significantly lower rates of constipation compared to solifenacin and Darifenacin.

Voiding difficulty
Voiding difficulty was significantly higher with oxybutynin compared to tolerodine.

Blurred vision
Blurred vision was significantly lower with Tolerodine compared to oxybutynin, but higher with propiverine. Compared to Oxybutynin.

There were no statistically significant differences between rates of dry eye, UTI/dysuria, fatigue/somnolence, insomnia/confusion and cognitive impairment and palpitations/tachycardia. However, few trials reported these outcomes.

Conclusions/Recommendations

• Side effect reporting is variable. Dry mouth was universally reported across studies. However, CNS, visual and cardiac side effects were not well reported with few studies recording these events in a format suitable for analysis.
• Future studies of anti-cholinergic safety should report all adverse events, not just those that occur frequently.
• A universal adverse events data collection tool would be useful in improving study quality.
• Longer term follow up studies are needed.